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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/845,742	05/01/2001	Wolfgang Picken	PRO.03	3461

25871 7590 05/13/2005
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EXAMINER

RILEY, JEZIA

ART UNIT PAPER NUMBER

1637

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/845,742	Applicant(s) PIEKEN ET AL.	
	Examiner Jezia Riley	Art Unit 1637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 8, 11-18 and 23-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 8, 11-18 and 21, 25-31 is/are allowed. *AK*
- 6) ☒ Claim(s) 23, 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

PD

DETAILED ACTION

Response to Remarks

1. Applicants' arguments, filed on 2/28/05, have been approved and entered. They have been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either newly applied or reiterated. They constitute the complete set presently being applied to the instant application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 23,24 are rejected under 35 U.S.C. 102(b) as being anticipated by Keana et al. (US 5,580,697).

Keana et al. discloses methods for covalently modifying surfaces of various substrates. Candidate surfaces include various polymeric, siliceous, metallic, allotrophic forms of carbon, and semiconductor surfaces (see also examples). The surfaces are exposed to a reagent, having molecules each comprising a nitrenogenic group and a functionalizing group, in the presence of energized charged particles such as electrons and ions, photons, or heat, which transform the nitrenogenic reagent to a nitrene intermediate. The nitrene covalently reacts with any of various chemical groups present

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on the substrate surface, thereby effecting nitrene addition of the functionalizing groups to the substrate surface. The functionalizing groups can then participate in downstream chemistry whereby any of a large variety of functional groups, including biological molecules, can be covalently bonded to the surface, thereby dramatically altering the chemical behavior of the surface. Such functionalizations of the surface can be done in a single reactive step or in multiple reactive steps. (abstract). Substrate surfaces are functionalized by exposing the surface to a nitrenogenic functionalizing reagent in the presence of a reaction-energy source such as photons, electrons, or heat. In the presence of the reaction-energy source, the functionalizing reagent forms a nitrene intermediate that covalently reacts with --CH, --NH, --OH, --C=.C--, --C--C-- and other groups on the substrate surface (which is viewed to be inclusive of the derivatized support) so as to cause "nitrene addition" or "nitrene insertion" of the functionalizing reagent to the substrate surface (summary of the invention). Nitrenes can undergo addition at --C--C-- and --C=.C—bonds to form a ring which is viewed of the [1+2] cycloaddition reaction or an ene reaction.(col.5).

Additionally the functionalizing reagent is preferably selected from a group consisting generally of: aryl azides, alkyl azides, alkenyl azides, alkynyl azides, acyl azides, and azidoacetyl derivatives, all capable of carrying a variety of substituents. Most preferably, fluorine (and/or chlorine) atoms are present to the maximum extent possible in the positions on the functionalizing reagent molecule adjacent the azide group.

Each of the foregoing azides may also contain within the same molecule any of the following functional groups, constrained structurally from reacting with the nitrene

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moiety after the nitrene moiety is generated: d) maleimido groups or other dienophilic groups such that the group may serve as a dienophile in a Diels-Alder cycloaddition reaction with a 1,3-diene-containing molecule such as, for example, an ergosterol;(col.6).

4. Applicants argue that the reference (Keana et al.) 's nitrene are highly reactive intermediates, thus it is not at all certain that the nitrene addition reaction described, but not illustrated by means of an actual example, could in fact be selectively performed using highly functionalized molecules. First it is unclear what the applicant mean by highly functionalized molecules as said term are not in the claims. Instant claim 23 only mention derivatized molecules, which can be anything in organic chemistry (for example the conversion of a ketone to an alcohol). Second, this statement appears to be based on opinion and is not supported by the record. Additionally applicants argue that the reference does not show an appropriate derivatization of the molecule being immobilized on the solid support wherein said derivatization is independent of the synthesis of the molecule. This is not convincing because instant claim 23 states the step of reacting a derivatized molecule with a derivatized support. Ergosterol can be viewed as a derivatized molecule of any compounds in organic chemistry like from the ketone form of the ergosterol. The instant claim does not specify where in the molecule the derivatization is located and what type of derivatization is actually meant.

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5. Claims 1-3, 8, 11-18, 25-31 are allowed. *AK*

6. **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire **THREE MONTHS** from the date of this action. In the event a first response is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory period for response expire later than **SIX MONTHS** from the date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jezia Riley whose telephone number is 571-272-0786. The examiner can normally be reached on 9:30AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on 571-272-0782. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thursday, May 12, 2005



JEZIA RILEY
PRIMARY EXAMINER